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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/540,362	03/31/2000	RAJA P. NARAYANAN	P1001	2370

7590 04/29/2005

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EXAMINER	
JAGANNATHAN, MELANIE	
ART UNIT	**PAPER NUMBER**
2666	

DATE MAILED: 04/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/540,362	NARAYANAN ET AL.	
	Examiner	Art Unit	
	Melanie Jagannathan	2666	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *26 February 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-54* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-54* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Specification

1. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-4, 6-7, 9-12, 14-19, 21-27, 29-30 are rejected under 35 U.S.C. 102(e) as being anticipated by Lioy US 6,665,537.

Regarding claims 1, 6-7, 14-19, the claimed method of communicating to a mobile node on a communications system having a home network with a home agent and at least one foreign wireless network with a foreign agent comprising the steps of receiving an agent solicitation at the foreign agent where solicitation is initiated by detection of movement of mobile node into foreign network is disclosed by MT2 device (Figure 1, element 104), in a single unit with mobile

terminal equipment TE2 (element 102) to form mobile node, detects TE2 device has changed networks then it sends a Solicitation Message to available Foreign Agents. See column 2, lines 23-67, column 3, lines 35-57, column 7, lines 4-22, column 9, lines 55-67. The claimed transmitting an agent advertisement from foreign agent in response to solicitation is disclosed by Foreign Agent, upon receiving Solicitation Message, is triggered into sending an Advertising Message with a foreign network care-of address to the TE2 device. See column 10, lines 6-11. The claimed transmitting a care of address to home agent based upon information in agent advertisement to support re-direction is disclosed by TE2 device re-initiating the Mobile IP mobile node registration procedure and establishes care-of-address on the new foreign network. See column 10, lines 11-27.

Regarding claims 2-4, 6-7, 14-19, 21-22, the claimed step of detecting mobile node movement with mobile node and with cell-site transmitter and in foreign network is disclosed by transmitter, MT2 device (Figure 1, element 104), in a single unit with mobile terminal equipment TE2 (element 102) to form mobile node, detects TE2 device has changed networks then it sends a Solicitation Message. See column 3, lines 35-57, and column 9, lines 55-67.

Regarding claims 9-12, the claimed de-registering of care-of-address with home agent after mobile node returns to home network is disclosed by TE2 device determines it has returned to its home network, the TE2 device will initiate the Mobile IP node de-registration procedure. See column 9, lines 55-67, column 10, and lines 1-17.

Regarding claim 23-27, the claimed method of determining a care-of-address for a mobile node in a wireless foreign network comprising the steps of detection of movement of mobile node and transmitting an agent solicitation to the foreign agent where solicitation is

initiated by detection of movement of mobile node into foreign network is disclosed by MT2 device (Figure 1, element 104), in a single unit with mobile terminal equipment TE2 (element 102) to form mobile node, detects TE2 device has changed networks then it sends a Solicitation Message to available Foreign Agents. See column 2, lines 23-67, column 3, lines 35-57, column 7, lines 4-22, column 9, lines 55-67. The claimed transmitting an agent advertisement from foreign agent in response to solicitation and deriving care-of-address for mobile node is disclosed by Foreign Agent, upon receiving Solicitation Message, is triggered into sending an Advertising Message with a foreign network care-of address to the TE2 device. See column 10, and lines 1-27.

Regarding claims 24-27, 29-30, the claimed step of detecting mobile node movement with mobile node and with cell-site transmitter and in foreign network is disclosed by transmitter, MT2 device (Figure 1, element 104), in a single unit with mobile terminal equipment TE2 (element 102) to form mobile node, detects TE2 device has changed networks then it sends a Solicitation Message.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 31-34, 36-40, 42-46, 48-51, 53-54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lioy in view of Xu et al. US 6,738,362.

Regarding claims 31, 37-38, 48-51, Lioy discloses system for communicating to a mobile node in a wireless network comprising a home network, home agent, foreign network, foreign agent with foreign agent transmits an agent advertisement in response to agent solicitation initiated by detection of mobile node movement into transmission range of foreign network.

Lioy fails to disclose home agent coupled to communication buss line and a router capable of directing communications to and from home network, foreign agent coupled to communication buss line and a router capable of directing communications to and from foreign network, and a transmitter capable of performing wireless communications with at least one mobile node.

Xu et al. discloses home registration agent (Figure 2, element 18A) coupled to home network (Figure 2, element 26) and home tunneling agent (Figure 2, element 18B) where an IP router would be a suitable device to conduct functions of home tunneling agent such as tunneling and routing for the mobile nodes. See column 5, lines 57-67, column 6, and lines 1-47. Xu et al. discloses foreign agent can be grouped into two groups that mirror functions performed by home agent as discussed above with session control and registration functions and tunneling and packet encapsulation/decapsulation serving as the two groups. See column 8, lines 57-67, and column 9. At the time the invention was made it would have been obvious to a person of ordinary skill in the art to modify Lioy with agent and router configuration of Xu et al. One of ordinary skill in the art would be motivated to do this for proper, effective routing/providing of Mobile IP network services.

Regarding claims 32-34, 36-38, 42-46, 48-51, 53-54, the claimed step of detecting mobile node movement with mobile node and with cell-site transmitter and in foreign network is

disclosed by Lioy by transmitter, MT2 device (Figure 1, element 104), in a single unit with mobile terminal equipment TE2 (element 102) to form mobile node, detects TE2 device has changed networks then it sends a Solicitation Message with care-of-address. See column 3, lines 35-57, column 9, lines 55-67, column 10, lines 1-11.

Regarding claim 40, the claimed de-registering of care-of-address with home agent after mobile node returns to home network is disclosed by Lioy by TE2 device determines it has returned to its home network, the TE2 device will initiate the Mobile IP node de-registration procedure. See column 9, lines 55-67, column 10, and lines 1-17.

6. Claims 5, 8, 13, 20, 28, 35, 41, 47, 52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lioy in view of LaPorta et al. US 6,496,505.

Lioy discloses claimed limitations of method and system of communicating to mobile with use of home agent, foreign agent, agent solicitation and agent advertisement. Lioy fails to disclose detecting mobile node upon power up of mobile in foreign network and de-registering the care-of-address upon power down of mobile in foreign network.

LaPorta et al. discloses detection of mobile powering up (Figure 4, element 200) and checking if mobile is not attached to home domain (element 204) and assigning care-of-address (element 208). LaPorta et al. discloses detection of mobile powering down (Figure 5, element 230) and releasing care-of-address (element 238). At the time the invention was made it would have been obvious to a person of ordinary skill in the art to modify Leung to include detection of powering up and down in foreign network as in LaPorta et al. One of ordinary skill in the art would be motivated to do so for proper redirection of packets.

Response to Arguments

7. Applicant's arguments with respect to claims 1-54 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Frid et al. US 6,137,791 disclose communicating packet data with a mobile station roaming within an incompatible network.

Lee et al. US 6,535,493 disclose mobile Internet communication protocol.

Chuah et al. US 6,665,718 disclose mobility management system.

Rai et al. US 6,577,643 disclose message and communication system in a network.

Willkie et al. US 6,230,012 disclose IP Mobility support using proxy mobile node registration.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melanie Jagannathan whose telephone number is 571-272-3163. The examiner can normally be reached Monday-Friday 8:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema S. Rao can be reached on 571-272-3174. The fax phone number for the organization where this application or proceeding is assigned is 571-273-3163.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MJ

FRANK DUONG
PRIMARY EXAMINER